Notice of Allowability	Application No.	Applicant(s)	
	09/981,145	DACOSTA ET AL.	
	Examiner	Art Unit	
	Katina M Wilson	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *29 May 2003*.
2. ☒ The allowed claim(s) is/are *1-11 and 13-19*.
3. ☒ The drawings filed on *16 October 2001* are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
   (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

8. ☐ CORRECTED DRAWINGS must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No. ____.
   (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
   (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1☐ Notice of References Cited (PTO-892)
2☐ Notice of Informal Patent Application (PTO-152)
3☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
4☐ Interview Summary (PTO-413), Paper No.____ .
5☐ Information Disclosure Statements (PTO-1449), Paper No. ____.
6☐ Examiner's Amendment/Comment
7☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
8☐ Examiner's Statement of Reasons for Allowance
9☐ Other .

HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandrock et al (4566281) in view of Slonaker (5895861).

As to claims 1 and 19, Sandrock et al teaches a containment means 11 comprises a pressure resistant bottle having hydrogen gas line 12 entering through top 13 of the bottle. Containment means 11 contains hydridable metal 14 and filter 15, which prevents transfer of solid hydridable material or hydride thereof into hydrogen gas line 12. When one wishes to desorb hydrogen from the hydrided metal 14, valve 18 in hydride gas line 12 is opened and heat stored in heat storage medium 16 provides the heat necessary to maintain the endothermic desorption reaction at a reasonable rate. Any sorbent material will have a theoretical maximum capacity and an ascertainable total heat of reaction for capacity storage. In addition, it will posses an equilibrium absorbing pressure which rises with temperature. It is essential in accordance with the teachings of the invention that sufficient heat storage capacity be available with respect to the quantity of sorbent material so that the equilibrium absorbing pressure will not reach the supply pressure of hydrogen until at least about 60 % of the storage capacity of the sorbent material is utilized. The appropriate valve in hydrogen charging line 12

and discharging line 19 enables alternate, sequential or simultaneous charging or discharging of hydrogen from containment means 11, 11a, 11b, etc. (col. 1, lines 36-68; col. 2, lines 1-20; Fig. 1). Sandrock et al does not teach using a gauge, but using a valve. However, it is well know in the art to a skill artisan that one can replace valve, which control flow in and out of a system, with a viewing gauge. Where the gauge is for measuring pressure and temperature of a fluid as seen in Slonaker's combination pressure/temperature gauge (abstract).

As to claim 2, Sandrock et al does not teach a pressure gauge having a plurality of scales for reading the amount of hydrogen stored within said hydride material, each said scale being indicative of the amount of stored hydrogen at different temperature. However, Slonaker teaches a gauge for a hydronic heating systems to monitor both water temperature and system pressure. Additionally some prior art gauges have demonstrated the ability to measure both temperature and pressure in a single unit (col. 1, lines 57-63). Even though Slonaker does not explicitly teach the pressure gauge is for reading the amount of hydrogen stored within said hydride material, it is strongly suggested that the design and the function of the gauge is based on the type of system/container of interest.

Allowable Subject Matter

3. Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Berry 1629063 teaches a gauge with multiple scales for various functions (entire patent).

Mackay (4165569) teaches a hydride storage and heat exchanger system (entire patent).

Asami et al (4393924) teaches a heat exchange apparatus with use of hydrogen storing material (abstract, col. 2-5).

Nishizaki et al (4457136) teaches a porous member being permeable to hydrogen gas but impermeable to the metal hydride (abstract, col. 6-13).

Hochstein (5471881) teaches a two dimensional lenticular animation display containing two different scale images (abstract, col. 6-9).

Pearl 6094983 teaches a dial face to include one or more reference scales printed thereon, such as a temperature scale (col. 2-4).

Stetson et al 6099811 teaches a self-heating metal hydride hydrogen storage system (col. 4-7).

Brown et al (6260414 B1) teaches a liquid crystal liquid level indicator that determines the level of a cooled liquid by producing a color change that is a function of the liquid temperature when the liquid is within a predetermined temperature range (abstract, 9-15).

Closing

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katina M Wilson whose telephone number is 703-308-7958. The examiner can normally be reached on Mon-Fri 6:15am-4:00pm, off 1st Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E Williams can be reached on 703-305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-3432 for regular communications and 703-308-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

DETAILED ACTION

Election/Restrictions

1. Claim 1 appears generic to a plurality of disclosed patentably distinct species comprising in figure 3, a plurality of scales shown at one time; figure 4, one scale shown at one time; figures 5, fuel indicator/gauge; figure 6, fuel gauge with a diaphragm; figure 7, fuel gauge with metal hydride material, glass cover, and a diaphragm; figure 8, fuel gauge with temperature and pressure sensors connected to piezoelectric transducer inside the container linked to a display; figure 9 and 10, a storage device electrically connected to measure electrical resistance. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed.

2. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

3. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katina M Wilson whose telephone number is 703-308-7958. The examiner can normally be reached on Mon-Fri 6:15am-4:00pm, off 1nd Fridays.

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